REMARKS

At the outset, Applicant thanks the Examiner for the thorough review and consideration of the pending application. The Office Action dated August 19, 2004 has been received and its contents carefully reviewed.

The drawings have been amended as follows. Previously omitted thin film transistor 23, scan line 24, and data line 25 are now shown in Figures 1, 3, 4, 6, 7, 9, and 10.

Claims 1, 4, 7, and 13 are hereby amended. Accordingly, claims 19 are currently pending. Reexamination and reconsideration of the pending claims is respectfully requested.

In Office Action, the Examiner objected to the drawings under 37 C.F.R. § 1.83(a) and 1.84(p)(4); objected to the specification as including terminology so different from that which is generally accepted in the art as to make it difficult to perform a proper search of the prior art; and rejected claims 1-19 under 35 U.S.C. § 102(a) as being anticipated by Takeda (U.S. Patent No. 6,456,268).

The objection to the drawings is respectfully traversed and reconsideration is requested.

In objecting to the drawings under 37 C.F.R. § 1.83(a), the Examiner indicated that "the drawings must show every feature of the invention specified in the claims" and that "the: 'thin film transistors', 'control signal', 'a driving voltage', 'a charge time', 'a digital to digital converter', and a 'compensation voltage' recited in claim 1; and the: 'a plurality of pixels', 'a corresponding switching device', 'data line', 'scanning lines', 'external control signals', 'a timing of scanning signals', 'a compensation voltage control signal', 'a reference control signal', and 'a compensated driving voltage' recited in claim 7 must be shown or the features canceled from the claims."

In light of the present amendments to claims 1 and 7, Applicant respectfully submits the present objection with respect to the noted features of "a digital to digital converter," "a timing of scanning signals," and "a plurality of pixels" is moot. Moreover, Applicant respectfully submits the present objection with respect to the noted features of "thin film

transistors," "a corresponding switching device," "data line," and "scanning lines" is moot in light of the present amendments to the specification and the drawings. With respect to the noted feature of "a charge time," Applicant respectfully submits the noted feature is graphically and exemplarily illustrated in at least Figures 5, 8, or 11. With respect to the noted features of "a control signal," and "external control signals," Applicant respectfully submits the noted features are symbolically and exemplarily illustrated Figures 3, 4, 6, 7, 9, and 10, when viewed in light of the specification, as being represented by the arrow between INTERFACE and TIMING CONTROLLER. With respect to the noted features of "a compensation voltage," and "a compensated driving voltage," Applicant respectfully submits the noted features are symbolically and exemplarily illustrated Figures 3, 4, 6, 7, 9, and 10, when viewed in light of the specification, as being represented by the arrow between VOLTAGE CONVERTER and LCD PANEL. With respect to the noted feature of "a compensation voltage control signal," Applicant respectfully submits the noted feature is symbolically and exemplarily illustrated Figures 3, 4, 6, 7, 9, and 10, when viewed in light of the specification, as being represented by the arrow between COMPENSATION VOLTAGE SETTING and VOLTAGE CONVERTER. With respect to the noted feature of "a driving voltage," Applicant respectfully submits the noted feature is symbolically and exemplarily illustrated Figures 3, 4, 6, 7, 9, and 10, when viewed in light of the specification, as being represented by the arrow between INTERFACE and VOLTAGE CONVERTER. Lastly, and with respect to the noted feature of "a reference control signal," Applicant respectfully submits none of the pending claims recites this feature. In view of the amendments to the claims, specification, and drawings, as well as the remarks provided above, Applicant respectfully requests withdrawal of the objection to the drawings under 37 C.F.R. § 1.83(a).

Further objecting to the drawings, the Examiner asserted that Figures 3, 4, 6, 7, 9, and 10 fail to comply with 37 C.F.R. § 1.84(p)(4) because "reference characters '32', '36' and '40' have all been used to designate the compensation voltage setting; and reference characters '34', '38' and '42' have all been used to designate the voltage converter."

Applicant hereby amends the specification and respectfully submits that the Examiner aforementioned objection with respect to reference characters "36" and "40" is moot. With respect to reference characters "34," "38," and "42," Applicant respectfully submits that 37

C.F.R. § 1.84(p)(4) merely requires the same part of an invention appearing in more than one view of the drawing always be designated by the same reference character. However, reference characters "34," "38," and "42" do not represent the same parts of the same invention. For example, reference character 34 represents a voltage converter of the first and second embodiments illustrated in Figures 3 and 4, respectively, reference character 38 represents a voltage converter of the third and fourth embodiments illustrated in Figures 6 and 7, respectively, and reference character 42 represents a voltage converter of the fifth and sixth embodiments illustrated in Figures 9 and 10, respectively. For at least the reasons provided above, Applicant respectfully requests withdrawal of the present objection to the drawings under 37 C.F.R. § 1.84(p)(4).

Lastly, in objecting to the drawings, the Examiner asserted that the Figures fail to comply with 37 C.F.R. § 1.84(p)(4) because "reference character '34' (or '38', or '40') has been used to designate both the claimed elements: 'a digital to digital converter' recited in claim 1 and a 'voltage converter' recited in claim 7.

Applicant respectfully submits, however, that 37 C.F.R. § 1.84(p)(4) merely requires the same reference character never be used to designate different parts of an invention. Thus, regardless of whether reference characters "34," "38," or "40" actually designate the converter elements claims 1 and 7, Applicant respectfully submits that neither reference characters "34," "38," nor "40" designate different parts of the same invention. Accordingly, Applicant respectfully submits the drawings fully comply with the requirements of 37 C.F.R. § 1.84(p)(4) and respectfully request withdrawal of the present rejection.

The objection to the specification is respectfully traversed and reconsideration is requested in view of the amendments made to the specification, replacing the term "digital to digital converter" with "voltage converter."

The rejection of claims 1-19 under 35 U.S.C. § 102(a) as being anticipated by Takeda is respectfully traversed and reconsideration is requested.

Independent claim 1 is patentable over Takeda in that claim 1 recites a combination of elements including, for example, "a timing controller having an input terminal for receiving

control signals transmitted from a host system, wherein the timing controller further includes an output terminal; a frequency detector... compensation voltage setting means connected to an output terminal of the frequency detector, wherein the compensation voltage setting means receives the control signals detected by the frequency detector and generates a compensation voltage control signal based on the detected control signals; and a voltage converter connected to an output terminal of the compensation voltage setting means and to the liquid crystal display panel, the voltage converter generating a compensation voltage based on the compensation voltage control signal and a driving voltage output by the host system so as to adjust a charge time of the thin film transistors and delivering the compensation voltage to the liquid crystal display panel." Takeda fails to teach, either expressly or inherently, at least these features of the claimed invention. Accordingly, Applicant respectfully submits that claims 2 and 3, which depend from claim 1, are also patentable over Takeda.

Independent claim 4 is patentable over Takeda in that claim 4 recites a combination of elements including, for example, "detecting the presence of control signals at one of an input terminal and an output terminal of a timing controller receiving the control signals from a host system; generating a compensation control signal in response to the detected control signals; adjusting a driving voltage output by the host system based on the compensation control signal, thereby generating a compensation voltage so as to adjust a charge time of the thin film transistors; and delivering the compensation voltage to the liquid crystal display panel." Takeda fails to teach, either expressly or inherently, at least these features of the claimed invention. Accordingly, Applicant respectfully submits that claims 5 and 6, which depend from claim 4, are also patentable over Takeda.

Independent claim 7 is patentable over Takeda in that claim 7 recites a combination of elements including, for example, "an LCD panel... a timing controller receiving external control signals and controlling an output of scanning signals; a frequency detector... a voltage compensator connected to an output of the frequency detector, wherein the voltage compensator receives the detected frequency and generates a compensation voltage control signal based on the detected frequency; and a voltage converter connected to an output of the voltage compensator and to the LCD panel, wherein the voltage converter receives the compensation voltage control signal and an external reference voltage and, based on the received compensation voltage control

signal and reference voltage, generates a compensated driving voltage for driving the scanning lines of the LCD panel." Takeda fails to teach, either expressly or inherently, at least these features of the claimed invention. Accordingly, Applicant respectfully submits that claims 8-12, which depend from claim 7, are also patentable over Takeda.

Independent claim 13 is patentable over Takeda in that claim 13 recites a combination of elements including, for example, "receiving external control signals for controlling a timing of scanning signals; detecting a frequency of at least one of the external control signals; generating a compensation voltage control signal according to the detected frequency; and adjusting an external voltage based on the compensation voltage control signal to generate a compensated driving voltage for driving the scanning lines of the LCD panel." Takeda fails to teach, either expressly or inherently, at least these features of the claimed invention. Accordingly, Applicant respectfully submits that claims 14-19, which depend from claim 13, are also patentable over Takeda.

Applicant believes the foregoing amendments place the application in condition for allowance and early, favorable action is respectfully solicited.

If for any reason the Examiner finds the application other than in condition for allowance, the Examiner is requested to call the undersigned attorney at (202) 496-7500 to discuss the steps necessary for placing the application in condition for allowance. All correspondence should continue to be sent to the below-listed address.

If these papers are not considered timely filed by the Patent and Trademark Office, then a petition is hereby made under 37 C.F.R. §1.136, and any additional fees required under 37 C.F.R. §1.136 for any necessary extension of time, or any other fees required to complete the filing of this response, may be charged to Deposit Account No. 50-0911. Please credit any overpayment to deposit Account No. 50-0911. A duplicate copy of this sheet is enclosed.

Dated: February 22, 2005

Respectfully submitted,

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Attachments

AMENDMENTS TO THE DRAWINGS

The attached sheets of drawings include changes to Figures 1, 3, 4, 6, 7, 9, and 10. These sheets, which include Figures 1, 3, and 4-10, replace the original sheets including Figures 1, 3, and 4-10. The following changes have been made to Figures 1, 3, 4, 6, 7, 9, and 10: previously omitted thin film transistor 23, scan line 24, and data line 25 are now shown in Figures 1, 3, 4, 6, 7, 9, and 10. It is respectfully submitted that no new matter has been entered.

Attachment: Replacement sheets
Annotated sheets showing changes

FIG. 1
CONVENTIONAL ART

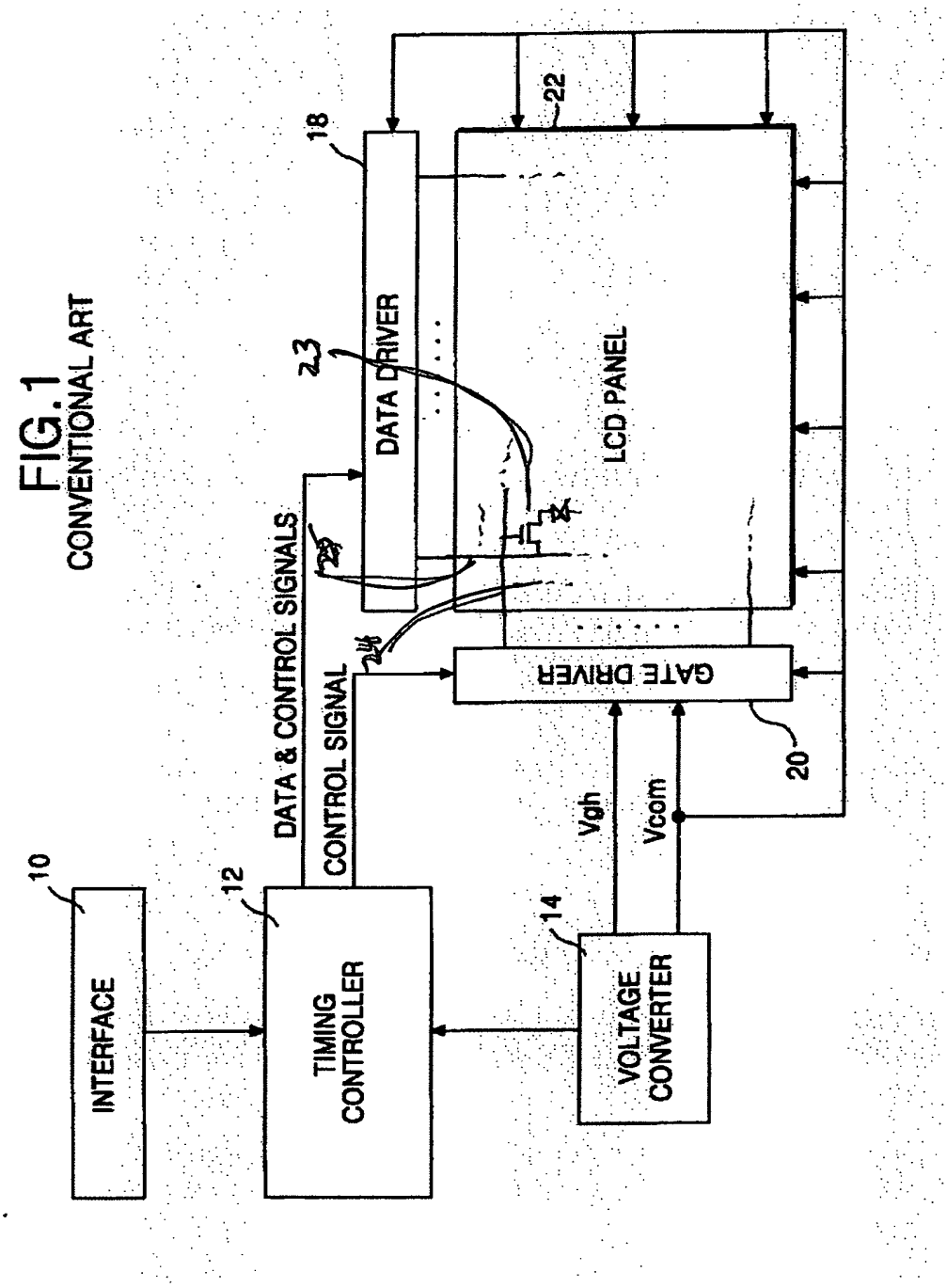

FIG.3

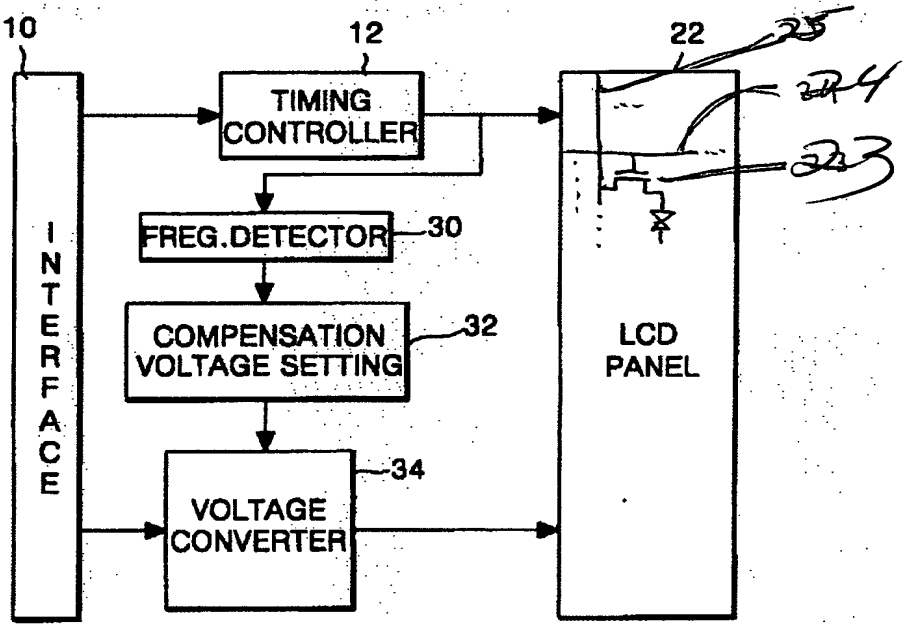

FIG. 4

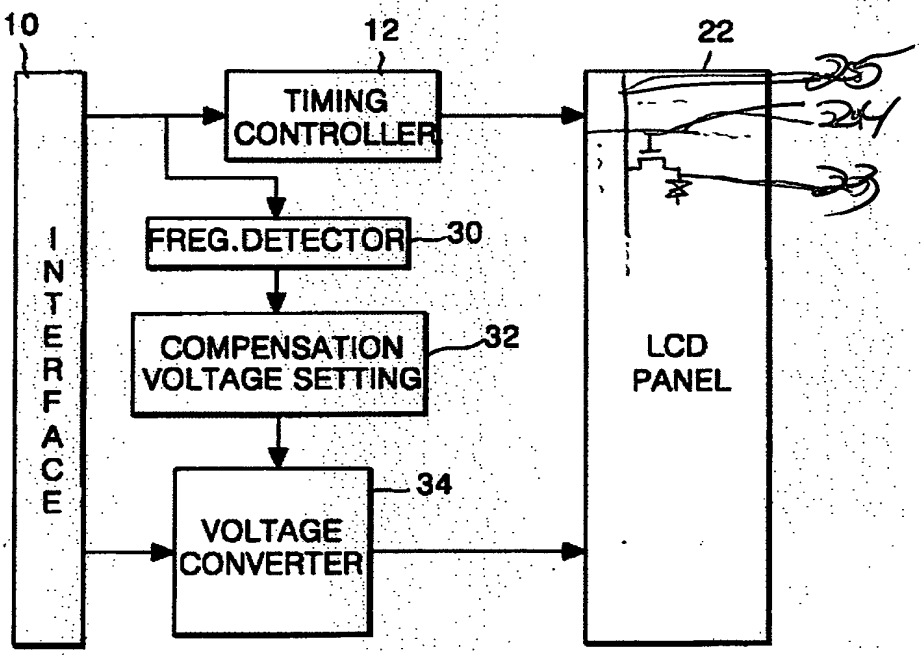

FIG.5

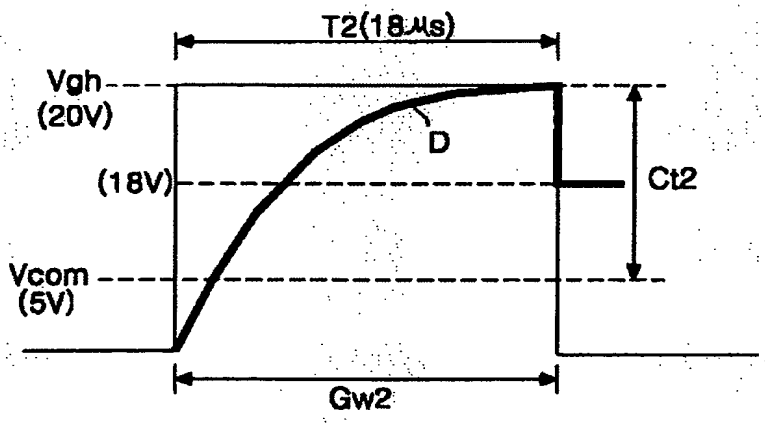

FIG.6

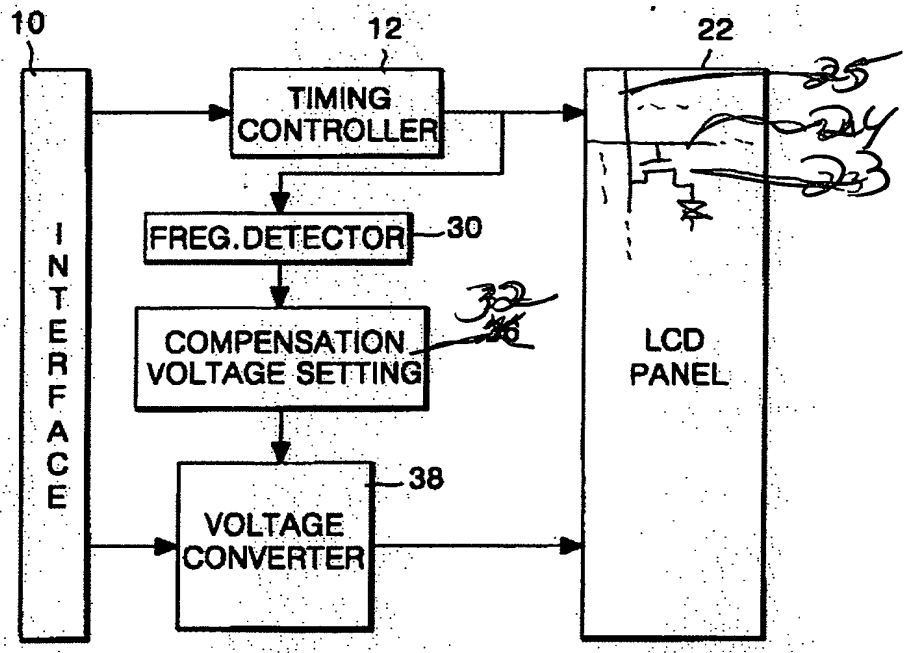

FIG.7

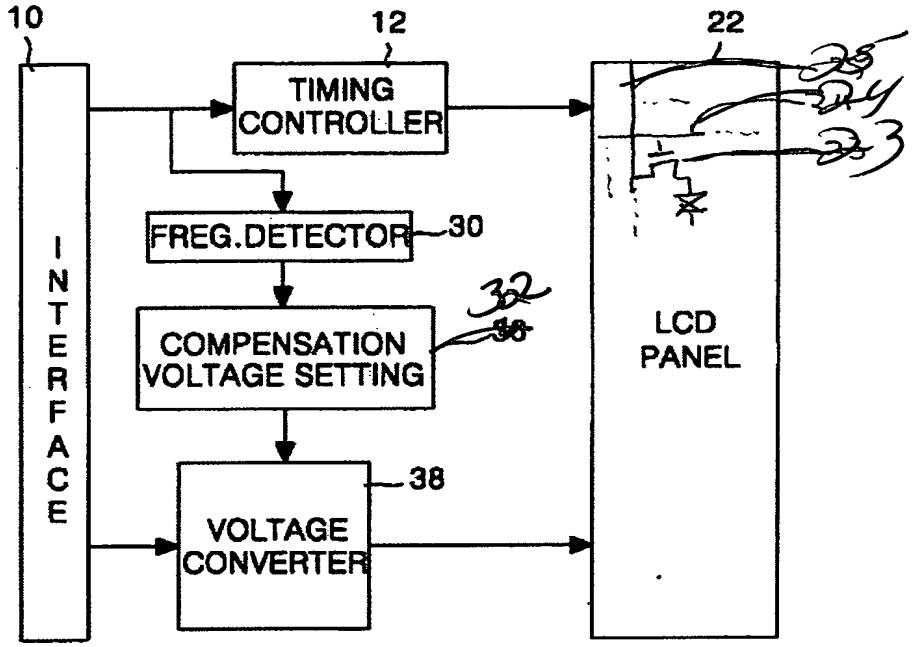

FIG.8

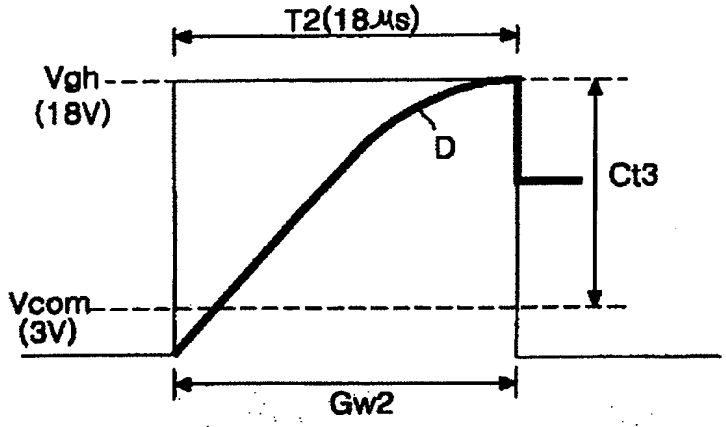

FIG.9

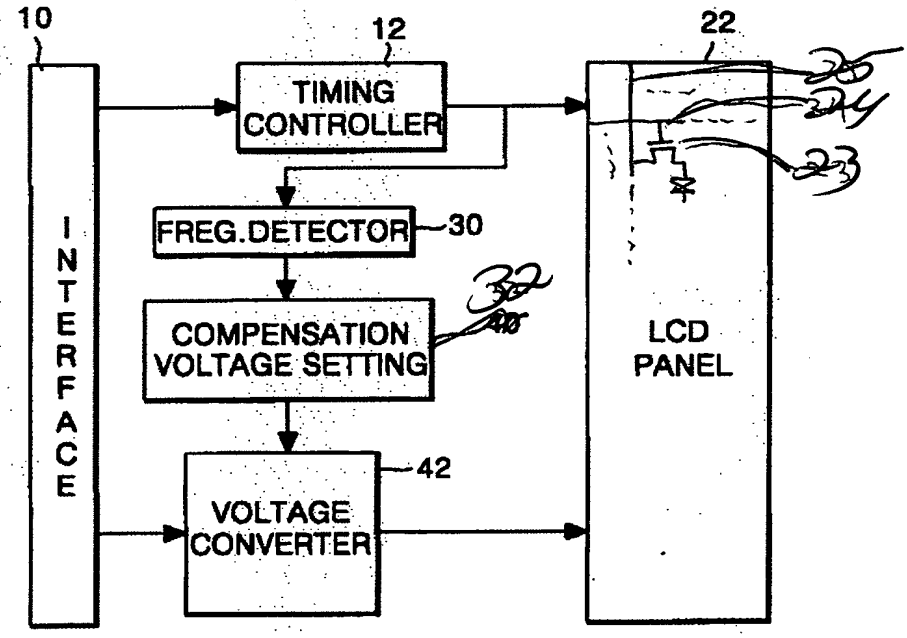

FIG.10